

A RUBBER BAND AROUND AN ATLANTIC CROAKER¹

by

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A rubber band permanently girdled an Atlantic croaker, *Micropogon undulatus*, resulting in considerable malformation and pathological alterations of the fish. On 12 July 1973 at Graveline Bayou, Jackson County, Mississippi, Mrs. Buster Blades caught on hook and line a 175 mm standard length (102.1 g) croaker that she immediately separated from the rest of her catch as a suspected parasitized fish. Later upon closer examination, she realized that a rubber band encircled the fish, and so she brought the fish to us. The band had deformed the prepelvic isthmus (Fig. 1), restricted movement of the pectoral fins, and permanently encircled the fish through a hole in the dorsum. Much of the elasticity was lost, but the band was entire and free to rotate through the perforation below the first dorsal fin. The tissue above the perforation, including the tissue of the dorsal fin, was complete and not severed, although several scales were regenerated. These observations, in addition to the malformed ventral area, suggest a lengthy association between band and fish.

The croaker, a benthic feeder, probably became entangled in the band during its bottom foraging. Testing the ability of several brands of rubber bands to float, we found most to sink rapidly immediately upon breaking the water's surface tension. Other bands, however, floated in both fresh and salt water. On the croaker the band apparently lodged between two anterior dorsal spines and on the slight protuberance of the prepelvic isthmus. Rather than becoming dislodged, the band subsequently girdled the fish in one of two ways. It either constricted the fish and severed the fish's tissue or surrounded the fish and stimulated its tissue to grow around the band.

We are puzzled, not so much by the presence of the band, but rather by the band remaining on the fish. Extracting the band could be accomplished by entangling the band on an object or by swimming backwards. On the other hand, we would expect the fish, its movements being somewhat restricted, to be attractive to predators and the band to be attractive to fishes or invertebrates which pick at fishes or foreign objects on them. Several such "pickers" are recognized for removing external parasites, and Hoese (1966) found that juvenile sea catfish, *Arius felis*, scraped the sides of croakers apparently feeding on mucus and scales. The catfish,

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Figure 1. *Micropogon undulatus* with a rubber band permanently attached.

at least, is abundant in local waters, and other cleaning species may be present. In any event, this croaker, similar to other fishes likewise entangled in rubber or plastic bands (Gudger 1928, Schwartz 1963, Honma 1964), avoided natural predation.

Whereas the present association between croaker and encircled band is doubtless accidental, other organisms may habitually enter orifices similar to that provided by a rubber band. Beaver (1964) reviewed several findings of the intestinal parasitic nematode *Ascaris lumbricoides* entering orifices in shoe-eyelets and buttons, as well as in the ampulla of Vater, an inflamed appendix, and other openings. Such observations of nonaccidental actions led to an understanding of the relationship between a genital girdle and estrus in these worms (Beaver and Little 1964).

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